PART I - ADMINISTRATIVE

Section 1. General administrative information

Title of project

The Fish Passage Center (Fpc)

BPA project number: 9403300
Contract renewal date (mm/yyyy): 12/1999 ☐ **Multiple actions?**

Business name of agency, institution or organization requesting funding
Pacific States Marine Fisheries Commission

Business acronym (if appropriate) PSMFC

Proposal contact person or principal investigator:

Name	Michele Dehart, FPC & Pam Kahut, PSMFC
Mailing Address	2501 SW First Ave., Suite 230
City, ST Zip	Portland, OR 97201
Phone	503/230-4288
Fax	503/230-7559
Email address	mdehart@fpc.org

NPPC Program Measure Number(s) which this project addresses
NPPC Fish & Wildlife Program Measures 3.6F 10, Sections 5.1.B.1 303, 403b, 1403.2.8

FWS/NMFS Biological Opinion Number(s) which this project addresses
NMFS BO RPA Section 13a

Other planning document references
NMFS BO RPA Section 13a, RPA Section 8, 16, 13 (a)

Short description
Provide the fishery agencies and tribes with technical expertise regarding hydrosystem operations, analysis of smolt monitoring data, for daily, weekly and monthly fish passage management decisions, and regional fish passage data base management.

Target species
All Species

Section 2. Sorting and evaluation

Subbasin
Columbia River Mainstem, Snake River Mainstem

Evaluation Process Sort

CBFWA caucus	Special evaluation process	ISRP project type
Mark one or more caucus	If your project fits either of these processes, mark one or both	Mark one or more categories
☒ Anadromous fish ☐ Resident fish ☐ Wildlife	☐ Multi-year (milestone-based evaluation) ☐ Watershed project evaluation	☐ Watershed councils/model watersheds ☒ Information dissemination ☒ Operation & maintenance ☐ New construction ☒ Research & monitoring ☒ Implementation & management ☐ Wildlife habitat acquisitions

Section 3. Relationships to other Bonneville projects

Umbrella / sub-proposal relationships. List umbrella project first.

Project #	Project title/description

Other dependent or critically-related projects

Project #	Project title/description	Nature of relationship
8401400	Smolt Monitoring - Federal	Critical Component
8712700	Smolt Monitoring by Non-Federal	Critical Component
8712702	Comparative Survival Study	Critical Component
8332300	Smolt Condition & Arrival	Critical Component
9008000	PITAGIS	Critical Component

Section 4. Objectives, tasks and schedules

Past accomplishments

Year	Accomplishment	Met biological objectives?
	Met all objectives for management and implementation	

Objectives and tasks

Obj 1,2,3	Objective	Task a,b,c	Task
1	Plan and implement the annual Smolt Monitoring Program to collect information on the migration characteristics of various stocks of salmon and steelhead within the Columbia Basin for in-season decisions and long term analysis.		
2	Plan and develop a program developing resident fish indices with the fish and wildlife managers, to create a long term data base of resident fish populations.		
3	Maintain a consistent long term data base of daily and annual migration characteristics, hydrologic data, hydrosystems operations data, reservoir operations, water quality, hatchery releases, mark recapture information and other information.		
4	Coordinate and facilitate discussions and analysis, among the agencies and tribes, and the FPC Board of Directors, of fish passage data and hydrosystem operations for enhancement of fish passage conditions and resident fish populations.		
5	Review research proposals, analysis and results applicable to fish passage management issues. Advise agencies and tribes, and the FPC Board of Directors, regarding the relationship and application of research to fish passage management issues.		

6	Consolidate, summarize, and distribute fish passage, reservoir, and other data as directed by the fishery agencies and tribes, and the FPC Board of Directors.		
7	Consolidate, summarize, and distribute resident fish and reservoir indices and data, as directed by the fish and wildlife managers.		
8	Provide technical expertise to the agencies and tribes, and the FPC Board of Directors, on hydrosystem management, fish passage, and resident fish populations. Respond to requests for analysis of data from the agencies and tribes, & FPC Board.		
9	Participate in committees, meetings, and presentations as requested by the agencies and tribes, and the FPC Board of Directors, and approved by the board of directors, including ESA processes related to mainstem hydrosystem management.		
10	Respond to data requests from state and federal agencies, tribes, private and public utilities, interest groups, and the public at large.		
11	Develop System Operational Requests as directed by the Fish and Wildlife managers committee, addressing juvenile and adult salmon passage and resident fish species year- around.		
12	Maintain a freeze brand coordination program. Maintain a freeze brand data base.		
13	Prepare a Fish Passage Center Annual Report, summarizing fish migration and fish passage operations and implementation and resident fish indices.		

14	Meet ESA permit requirements and reporting requirements for the Smolt Monitoring Program. Respond to NMFS requests for review of specific Section 10 permit applications		
15	Provide weekly reports throughout the migration period, and bi-weekly reports through the end of the passage season. Weekly reports are provided to any entity making a request.		
16	Provide technical assistance, analysis, & data for ESA and Northwest Power Planning & Conservation Act related issues & processes, including ANCOR & PATH process efforts in recovery analysis; states water quality agencies consideration		(con't) of water quality issues, such as dissolved gas levels as it relateds to spill for fish passage; the System Configuration Team (SCT); the Technical Management Team (TMT); the Dissolved Gas Team (DGT; & the Implementation Team (IT).
17	Conduct pre-passage season analysis of hydrosystem status and operations, and advise the agencies and tribes, and the FPC Board of Directors. Conduct post-passage season analysis of fish passage, resident fish population characteristics, and hydrosystem		(con't) operations, in addition to the FPC Annual Report.
18	Maintain a current knowledge of the daily operation of the hydrosystem. Maintain communication with the operators and regulators on a daily basis.		
19	Maintain a Fish Passage Center Internet page.		
20	Coordinate the implementation of the Adult and Juvenile Fish Passage Facilities Inspection Coordination Program. Summarize inspection reports. Follow up on findings, reporting issues to the agencies and tribes, & FPC Board of Directors, & pursuing		(con't) their resolution with the U.S. Army Corps of Engineers (COE). Complete an Annual Report of the Adult & Juvenile Fish Facilities Inspection Program.

Objective schedules and costs

Obj #	Start date mm/yyyy	End date mm/yyyy	Measureable biological objective(s)	Milestone	FY2000 Cost %
1	12/1999	11/2000			5.00%
2	12/1999	11/2000			5.00%
3	12/1999	11/2000			5.00%
4	12/1999	11/2000			5.00%
5	12/1999	11/2000			5.00%
6	12/1999	11/2000			5.00%
7	12/1999	11/2000			5.00%
8	12/1999	11/2000			5.00%
9	12/1999	11/2000			5.00%
10	12/1999	11/2000			5.00%
11	12/1999	11/2000			5.00%
12	12/1999	11/2000			5.00%
13	12/1999	11/2000			5.00%
14	12/1999	11/2000			5.00%
15	12/1999	11/2000			5.00%
16	12/1999	11/2000			5.00%
17	12/1999	11/2000			5.00%
18	12/1999	11/2000			5.00%
19	12/1999	11/2000			5.00%
20	12/1999	11/2000			5.00%
				Total	100.00%

Schedule constraints
None Known

Completion date
Unknown

Section 5. Budget

FY99 project budget (BPA obligated): $1,054,833

FY2000 budget by line item

Item	Note	% of total	FY2000
Personnel		%50	541,750

Fringe benefits		%19	200,447
Supplies, materials, non-expendable property	Included with Operations & Maintenance	%0	0
Operations & maintenance		%16	172,982
Capital acquisitions or improvements (e.g. land, buildings, major equip.)		%0	5,000
NEPA costs		%0	
Construction-related support		%0	
PIT tags	# of tags:	%0	
Travel		%2	20,592
Indirect costs		%13	138,592
Subcontractor		%0	
Other		%0	
TOTAL BPA FY2000 BUDGET REQUEST			$1,079,363

Cost sharing

Organization	Item or service provided	% total project cost (incl. BPA)	Amount ($)
NMFS	Facility Inspection Cost Partial Reimbursement	%1	7,656
IDFG	Facility Inspection Cost Partial Reimbursement	%1	7,656
USFWS	Facility Inspection Cost Partial Reimbursement	%1	7,656
WDFW	Facility Inspection Cost Partial Reimbursement	%1	7,656
ODFW	Facility Inspection Cost Parial Reimbursement	%1	7,656
Total project cost (including BPA portion)			$1,117,643

Outyear costs

	FY2001	FY02	FY03	FY04
Total budget	$1,119,984	$1,153,584	$1,188,192	$1,223,838

Section 6. References

Watershed?	Reference
☐	The FPC annual reports for this contract 1984 through 1998.
☐	FPC Web Page

☐	
☐	

PART II - NARRATIVE

Section 7. Abstract

The FPC provides technical analysis and recommendations for fish passage management to the agencies and tribes. The FPC designs and oversees the implementation of the Smolt Monitoring Program, including the dissolved gas trauma monitoring, and distributes the data daily to public and private entities in the region. The FPC maintains historical and current databases of hatchery release, hydrologic, project operation, reservoir operations, adult salmon passage, juvenile salmon passage, gas bubble trauma, water temperature and dissolved gas data. The FPC provides specific analysis of fish passage alternatives as requested by the FPC Board of Directors and the Anadromous Fish Managers. FPC staff participates in the NMFS Regional ESA process as requested by the agencies and tribes specifically, the Implementation Team process, the Dissolved Gas Team, the Technical Management Team. The FPC is responsible for management of the Comparative Survival Study and FPC staff participates on the interagency Oversight Committee for the project. FPC staff provides analysis and presentation to state water quality agencies as requested by the agencies and tribes.

Section 8. Project description

a. Technical and/or scientific background

The FPC provides fish passage management recommendations regarding spill, flow and fish facilities operations to the Fish and Wildlife Managers. These recommendations regarding anadromous fish passage and migration are developed by the salmon managers, comprised of representatives of the state and federal fishery agencies and treaty tribes of the Columbia River Basin. The FPC participates in the in-season management processes established by both of these mitigation protection programs. The salmon managers' recommendations are based upon FPC analysis and summary of current and historical fish passage data. The FPC designs and implements the annual Smolt Monitoring Program (SMP) which provides daily information for in-season management decisions.

The FPC also provides the agencies and tribes, and the FPC Board of Directors, with reservoir operation information and analysis, including current and historical data. The downstream fish passage measures of the Northwest Power Planning Council (NPPC) Fish and Wildlife Program, include measures for flow and spill to provide mitigation for hydrosystem project impacts. The NMFS Biological Opinion includes measures to protect Endangered Species Act listed stocks of salmon. Both the Opinion and the NPPC Fish and Wildlife Program require data and analysis to implement these

measures. The Fish Passage Center project provides data management and distribution and technical analysis to support the management entities in implementation of the NPPC measures and the Opinion measures, and planning decisions for future years.

b. Rationale and significance to Regional Programs

The Fish Passage Center (FPC) was established to provide a unit of technical expertise to provide the foundation for the fishery management agencies and tribes involvement in hydrosystem operation and management as it affects fish and wildlife resources. The analysis and coordination function provided by FPC to the agencies and tribes includes coordination of major interagency efforts such as the Columbia and Snake Rivers Comparative Survival Study of Hatchery PIT Tagged Spring Chinook, and the Basinwide Smolt Monitoring Program. The activities and analysis provided by FPC are utilized in the NMFS Regional Endangered Species Act process, specifically in the Implementation Team, the Technical Management Team, the Dissolved Gas Management Team and other policy and technical committees in the region. FPC analyses are utilized by policy makers for day-to-day management decisions as well as long term mitigation management decisions. FPC analyses, presentations and data compilations are utilized in state water quality issues relating to the state dissolved gas standards by the Oregon Environmental Quality Commission and the Washington Department of Ecology. Databases developed and maintained by the FPC provide data recovery for various research studies basinwide. Databases and summaries developed by FPC provide information to all public and private entities.

c. Relationships to other projects

The FPC is a key component of projects listed in Section 3, and specifically the Comparative Survival Study, and the Smolt Monitoring Program. FPC also participates in activities relating to the COE transportation programs, dissolved gas abatement and other research projects. The FPC project and its' other key components do not conflict with other projects because all of the projects are developed within a regional review framework. Coordination among activities precludes the possibility of conflict.

d. Project history (for ongoing projects)

The FPC develops an annual report, summarizing the regional Smolt Monitoring Program data, passage analyses and hydrosystem operations affecting fish passage. Weekly reports summarizing hydrosystem operations, spill, flow, gas bubble symptoms, and dissolved gas levels are distributed to over 450 private and public individuals. An FPC Internet Web page is maintained daily.

The FPC began as The Water Budget Center in 1983, under BPA project number #8712700, which combined the FPC with the Regional Smolt Monitoring Program. In 1994 the Fish Passage Center Project was given an independent project number, #940330.

Budgeted costs for 1995; 1996; 1997; 1998 and 1999 were 1,676,908; 964,857; 1,003,862; 1,009,887 and 1,054,833 respectively.

e. Proposal objectives

Objective 1: Plan and implement the annual Smolt Monitoring Program to collect information on the migration characteristics of various stocks of salmon and steelhead within the Columbia Basin for in-season decisions and long term analysis.

*Objective 2: Plan and develop a program developing resident fish indices with the fish and wildlife managers, to create a long term data base of resident fish populations.

Objective 3: Maintain a consistent long term data base of daily and annual migration characteristics, hydrologic data, hydrosystems operations data, reservoir operations, water quality, hatchery releases, mark recapture information and other information utilized in hydrosystem operation requests for fish passage and Board of D to support operations analysis.

*Objective 4: Coordinate and facilitate discussions and analysis, among the agencies and tribes, and the FPC irectors, of fish passage data and hydrosystem operations for enhancement of fish passage conditions and resident fish populations. Provide necessary data compilations, analysis, and graphics to facilitate those discussions.

Objective 5: Review research proposals, analysis and results applicable to fish passage management issues. Advise agencies and tribes, and the FPC Board of Directors, regarding the relationship and application of research to fish passage management issues. Maintain current knowledge of proposed and on-going studies and their results and applications to fish passage management and hydrosystem operation issues.

Objective 6: Consolidate, summarize, and distribute fish passage, reservoir, and other data as directed by the fishery agencies and tribes, and the FPC Board of Directors.

*Objective 7: Consolidate, summarize, and distribute resident fish and reservoir indices and data, as directed by the fish and wildlife managers.

*Objective 8: Provide technical expertise to the agencies and tribes, and the FPC Board of Directors, on hydrosystem management, fish passage, and resident fish populations. Respond to requests for analysis of data from the agencies and tribes, and the FPC Board of Directors, through the FPC board of directors.

Objective 9: Participate in committees, meetings, and presentations as requested by the agencies and tribes, and the FPC Board of Directors, and approved by the board of directors, including ESA processes related to mainstem hydrosystem management.

Objective 10: Respond to data requests from state and federal agencies, tribes, private and public utilities, interest groups, and the public at large.

*Objective 11: Develop System Operational Requests as directed by the Fish and Wildlife managers committee, addressing juvenile and adult salmon passage and resident fish species year- around.

Objective 12: Maintain a freeze brand coordination program. Maintain a freeze brand database.

*Objective 13: Prepare a Fish Passage Center Annual Report, summarizing fish migration and fish passage operations and implementation and resident fish indices.

Objective 14: Meet ESA permit requirements and reporting requirements for the Smolt Monitoring Program. Respond to NMFS requests for review of specific Section 10 permit applications.

Objective 15: Provide weekly reports throughout the migration period, and bi-weekly reports through the end of the passage season. Weekly reports are provided to any entity making a request.

Objective 16: Provide technical assistance, analysis, and data as requested for ESA and Northwest Power Planning and Conservation Act related issues and processes, including the ANCOR and PATH process efforts in recovery analysis; the states water quality agencies consideration of water quality issues, such as dissolved gas levels as it relates to spill for fish passage; the System Configuration Team (SCT); the Technical Management Team (TMT); the Dissolved Gas Team (DGT); and the Implementation Team(IT).

*Objective 17: Conduct pre-passage season analysis of hydrosystem status and operations, and advise the agencies and tribes, and the FPC Board of Directors. Conduct post-passage season analysis of fish passage, resident fish population characteristics, and hydrosystem operations, in addition to the FPC Annual Report.

Objective 18: Maintain a current knowledge of the daily operation of the hydrosystem. Maintain communication with the operators and regulators on a daily basis.

Objective 19: Maintain a Fish Passage Center Internet page.

The state and federal salmon management agencies fund the Adult and Juvenile Fish Facilities Inspection Coordination Program at the FPC. The following objective is not funded by BPA, but is a component of the FPC annual work plan:

Objective 20: Coordinate the implementation of the Adult and Juvenile Fish Passage Facilities Inspection Coordination Program. Summarize inspection reports. Follow up on findings, reporting issues to the agencies and tribes, and the FPC Board of Directors, and pursuing their resolution with the U.S. Army Corps of Engineers (COE). Complete an Annual Report of the Adult and Juvenile Fish Facilities Inspection Program.

f. Methods

The Pacific States Marine Fisheries Commission conducts the project fiscal management. The Fish Passage Center is overseen by the Fish Passage Center Board of Directors (Board). The Board is comprised of representatives of tribal, state fish and wildlife agencies, and federal fish and wildlife agencies in the Columbia River Basin. The FPC staff acts as technical staff to the agencies and tribal fishery management agencies. Analysis is provided for agency and tribal review. The FPC relies on extensive coordination and communication with the fishery management agencies. In addition the FPC maintains up-to-date knowledge on fish passage research, data and analysis.

g. Facilities and equipment

The FPC maintains a computer network to transmit data, and to maintain data distribution and analysis. Office space is maintained, fiscal management is conducted by PSMFC.

h. Budget

The budget for this project is primarily personnel costs. The budget staffing is developed under the auspices and budget directions of the CBFWA Anadromous Fish Committee. Positions are developed and grade levels established according to Federal personnel standards and guidelines. The staffing for this project has remained stable over the years.

Section 9. Key personnel

Michele DeHart, Manager, Fish Passage Center, 1984-present
Margaret Filardo, Biologist, Fish passage Center, 1986-present
Tom Berggren, Biometrician, Fish Passage Center, 1985-present
Pam Kahut, Fiscal Manager, Pacific States Marine Fisheries Commission

Resumes, as available, follow:

MICHELE DEHART

PROFESSIONAL EXPERIENCE

1984 - Present Fish Passage Center/Pacific Marine Fisheries Commission

Fish Passage Center Manager 1986-Present, Biologist Analyst 1984-1986

- Supervise all of FPC activities and staff
- Develop recommendations, and analysis as required by the Columbia Basin Fish and Wildlife Agencies and Tribes
- Oversee the design, development implementation and analysis of the Smolt Monitoring Program and the Comparative Survival Study.

1980 – 1983 National Marine Fisheries Service

Biologist

- *Mid-Columbia River FERC licensed projects*

1978 –1979 Pacific Northwest River Basins Commission

Biologist

- *Multipurpose river use, tradeoff analysis*

1977 – 1978 Columbia River Inter-tribal Fish Commission

Biologist

- Technical representative for treaty tribes in Columbia River habitat and harvest issues.

1975 – 1976 Northwest Indian Fish Commission

Biologist

- US v Washington Environmental Issues
- Metlakatla, Alaska, Indian Community consultant, Herring Roe Fishery

1972 – 1975 US Fish and Wildlife Service

Biologist

- Technical assistance NWIFC tribes, stream surveys
- Logging unit permits and stream activities hydraulic permit

EDUCATION

BS Fishery Biology University of Washington Seattle, Washington

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Thomas J. Berggren
4921 SE 43 Ave
Portland, OR 97206
(503) 774-2016

Title: Biometrician

FTE: 1 (40 hrs/week)

Description of duties: Provide oversight on design/analysis aspects of Smolt Monitoring Program. Analyze the data collected from monitoring sites, as well as the PIT tagged data for groups released in the Smolt Monitoring Program to arrive at smolt travel times and survivals. As adult returns from the 1996 to 1998 PIT tag releases from key hatcheries in the Snake and lower Columbia River become complete for each brood year, I will estimate SAR's and analyze return rates with respect to whether fish migrated in-river or were transported. Responsible for completion of sections of Fish Passage Annual Report related to the Smolt Monitoring Program.

Experience:
• Fish Passage Center, Portland OR – February 1986 to present. Biometrician on Smolt Monitoring Program.

• Bonneville Power Administration, Portland OR – March 1982 to February 1986. Fishery Biologist within Fish and Wildlife Division (2 yrs) and Statistician within Forecasting Division (2 yrs).

• Beak Consultants, Portland OR – October 1979 to March 1982. Fishery Biologist/Analyst providing statistical support to staff of fish and wildlife biologists and botanists.

• Texas Instruments, Buchanan NY – March 1974 to January 1978. Fishery Biologist/Analyst providing operational and analytical oversight on study of Stripped Bass demographics in Atlantic fishery.

Education:
• Master of Science, May 1981 from Cornell University in Department of Plant Breeding and Biometry, Ithaca NY. Coursework in statistics and biometry completed between January 1978 and October 1979, with thesis completed May 1981.

• Master of Science, March 1974 from University of Washington in College of Fisheries, Seattle WA. Coursework emphasized fishery population dynamics and mathematics/statistics.

• Bachelor of Science, June 1971 from University of Washington in College of Fisheries, Seattle WA. Coursework emphasized quantitative science and mathematics.

Recent Publications:
• Berggren, TJ and MJ Filardo, 1993. An analysis of variables influencing the migration of juvenile salmonids in the Columbia River basin. North American Journal of Fisheries Management, Vol 13 (1): 48-63.

• Chapter on Smolt Monitoring Program in each Annual Report of the Fish Passage Center since 1986.

Section 10. Information/technology transfer

Technical information from the project is distributed to the public, private entities and the entire region through weekly reports and Annual Reports, and daily updates to the FPC Internet Web page. Individual data requests are responded to individually. Upon request from the agencies and tribes, FPC staff present analyses in presentations to various private and public forums, commissions and committees.

Congratulations!